ASPLOS Memory Workshop

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Idea Memory

- High Density
  - Low Cost
  - Scalable Capacity

- High Performance
  - Latency & BW
  - High cell access speed
  - Easy interface

- Low Power

- Others
  - High Endurance
  - Non-Volatility
Technology Advancements

- **On-chip memory**
  - **Moore’s Law**
    - 22nm dense SRAM
      - 0.092 um² (IDF 2009)
    - IBM eDRAM
      - 0.126um² (65nm)

- **Stacking**
  - **Capacity**

- **FLASH**
  - Lower cost than DRAM

- **New memory devices**
  - MRAM, ST RAM
  - PCM
Panel Questions

- What do you think is the biggest problem with current memory system?
- What do you think is the most promising solution to the problem you see?